

Disease	Early Blight	Late Blight	Tomato Leaf Spot
Responsible Fungus	<i>Alternaria solani</i>	<i>Phytophthora infestans</i>	<i>Septoria lycopersici</i>
Description of Foliar Damage	One or two spots per leaf, approximately ¼ to ½ inch in diameter. Spots have tan centers with concentric rings in them and yellow halos around the edges.	Spots start out pale green, usually near the edges of tips of foliage, and turn brown to purplish-black. In humid conditions, a fuzzy mold appears on the undersides of leaves.	Numerous brown spots appear on the leaves, approximately 1/16 to 1/8 inch in diameter. The spots lack a yellow halo, and, upon close inspection, have black specks in the center.
Description of Fruit Damage	Dark, sunken spots appear on the stem end of fruits.	Brown, leathery spots appear on green fruit on the top and sides of the fruit. In humid conditions, white mold also forms.	Fruit are not affected, though sun scald can be a problem due to foliage loss.
Description of Stem Damage	Dark, sunken cankers at or above the soil line.	Black and brown spots appear and spread. Entire vines can be killed very quickly in periods of high humidity.	No stem damage.
Optimal Conditions	High humidity, and temperatures above 75 degrees F.	High humidity, temperatures between 60 and 80 degrees F.	High humidity, temperatures between 60 and 80 degrees F.
Organic Treatment	Remove lower leaves after first fruit sets, remove affected leaves as they appear, plant tomatoes in a different area next year.	Pull and destroy the plant, select resistant varieties next year, and plant tomatoes in a different area of the garden.	Remove infected foliage as it appears, clean tools before moving to another plant. Plant tomatoes in a different area of the garden next year.
Fungicide Treatment	Mancozeb products Chlorothalonil Products	Chlorothalonil Products Copper Fungicides Mancozeb Products	Chlorothalonil Products Copper Fungicides Mancozeb Products

Photos of Tomato Diseases

Early Blight



Late Blight



Tomato Leaf Spot



Fungicide Active Ingredient	Examples of Products Containing the Active Ingredient
Note: ¹RTU products are pre-mixed fungicides in a spray bottle.	
Chlorothalonil	Bonide Fungonil Concentrate 29.6%; & RTU ¹ Ferti-lome Broad Spectrum Landscape & Garden Fungicide Conc. 12.5%; & RTU ¹ GardenTech Daconil Fungicide Concentrate 29.6% Hi-Yield Vegetable, Flower, Fruit & Ornamental Fungicide Conc. 12.5% Monterey Fruit Tree, Vegetable & Ornamental Fungicide Conc. 29.6% Ortho Disease B Gon Garden Fungicide Concentrate 29.6% Ortho MAX Garden Disease Control Concentrate 29.6% Southern Ag Liquid Ornamental & Vegetable Fungicide Conc. 12.5% Tiger Brand Daconil Concentrate 12.5%
Mancozeb	Bonide Mancozeb Flowable with Zinc Concentrate Dithane M-45, Mancoflo, Manzate 200, Manzeb, Manzin, Riozeb, etc.
Copper Fungicide	Natural Guard Copper Soap Liquid Fungicide Conc.; & RTU ¹ Bonide Liquid Copper Concentrate; & RTU ¹ Camelot Fungicide/ Bactericide Concentrate Hi-Yield Bordeaux Mix Fungicide Lilly Miller Worry Free Copper Soap RTU ¹ Monterey Liqui-Cop Fungicide Concentrate Ortho Disease B Gon Copper Fungicide Concentrate; & RTU ¹ Southern Ag Liquid Copper Fungicide



Blossom End Rot

Blossom-end rot is not caused by a parasitic organism, but is a physiologic disorder associated with a low concentration of calcium in the fruit. Since it is of a physiological nature, fungicides and insecticides are useless as control measures. The occurrence of the disease is dependent upon a number of environmental conditions, especially those that affect the supply of water and calcium in the developing fruits. When a rapidly growing fruit is deprived of necessary calcium, the tissues break down, leaving the characteristic dry, sunken lesion at the blossom end. This may result from low calcium levels or high amounts of competitive cations in the soil, drought stress, or excessive soil moisture fluctuations which reduce uptake and movement of calcium into the plant, or rapid, vegetative growth due to excessive nitrogen fertilization. Control of blossom end rot is dependent upon maintaining adequate supplies of moisture and calcium to the developing fruits. Tomatoes planted early in cold soil are likely to develop blossom end rot on the first fruits, with the severity of the disease often subsiding on fruits set later because root systems enlarge and gather more calcium. Thus, planting tomatoes in warmer soils helps to alleviate the problem. Moisture or irrigation must be sufficient to maintain a steady even growth rate of the plants. Mulching of the soil is often helpful in maintaining adequate supplies of soil water in times of moisture stress. When cultivation is necessary, it should not be too near the plants nor too deep, so valuable feeder roots remain uninjured and viable. In home gardens, shading the plants is often helpful when hot, dry winds are blowing, and soil moisture is low. Use of fertilizer low in nitrogen, but higher in phosphate and potassium (5-10-10) help reduce the problem of blossom end rot.